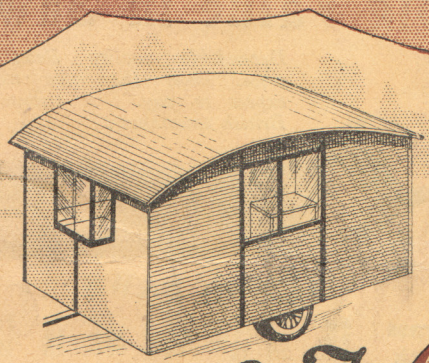
Hobbies WEEKLY



a Trailer Caravan

Electric Shop Door Mats

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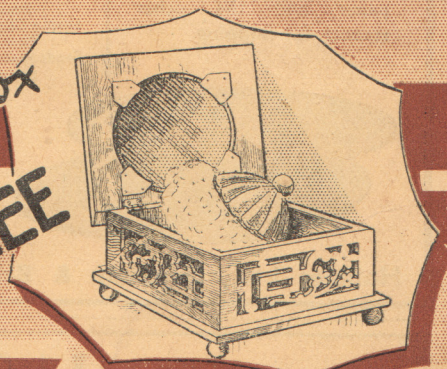

Powder Box Design FREE

June 8th. 1935

2D.

Vol. 80. No. 2068

THE FRETWORKER'S AND HOME CRAFTSMAN'S JOURNAL

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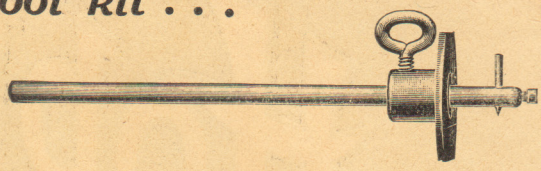

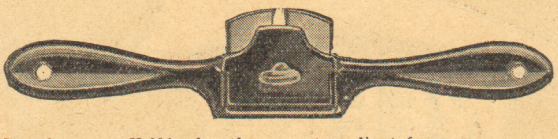

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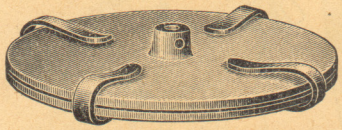

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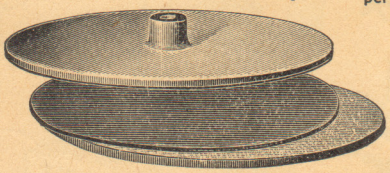

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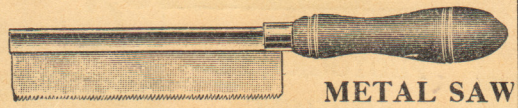

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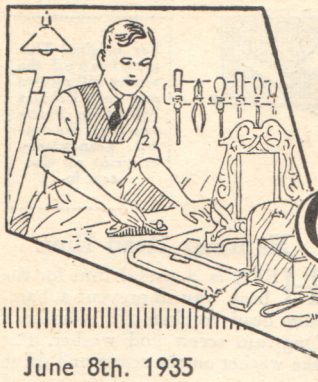
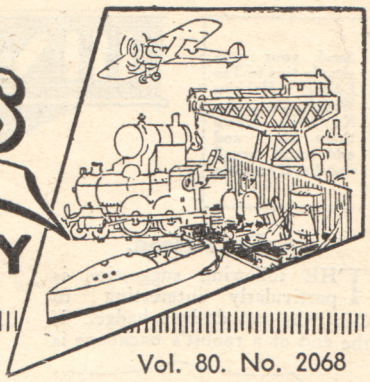


Hobbies WEEKLY



June 8th. 1935

Letters should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

Vol. 80. No. 2068

NOTES of the WEEK

Value For Twopence — Jubilee Transfers—A Garden Greenhouse Indoors ! — Hobbies for Father and Sons — The Fleet Sails In.

I AM sure readers will not be disappointed at the absence of a large design chart with this issue, because we have so planned the patterns on the centre pages that you have an article there equal to any large sheet. There is no other book offering such regular design value, even apart from the many articles on things to make and do. When you work out the variety and usefulness of these pages you will agree that, to the handyman, you have a marvellous twopennyworth.

THERE is a big novelty for you again next week. A model greenhouse you can keep indoors, and yet which is large enough for you to grow miniature shrubs, flowers and even garden cress for tea. You'll be delighted when you see it, I know. Scouts, too, are having a special article on a handy and " scouty " piece of work.

I HAVE just learned of some special Jubilee transfers in colour which are now available. They are small and suitable for use on plain work. The transfers are of the Union Jack, or a group of flags, with pictures of the King and Queen in the centre. I shall be pleased to tell readers where they can obtain them if they wish, and providing they enclose a stamped addressed envelope.

TALKING of Jubilee matters, a number of readers have written telling me of their long association with Hobbies. You may remember I mentioned it in our Jubilee Number. Just one illustration of how the taking of our Weekly goes from generation to generation is shown in a letter, for instance, from Norman Partington of Bolton, who writes :—" My father is an old reader of your paper and he remembers the Coronation quite well. He has been reading Hobbies Weekly for 35 years. In that space of time he has made scores of articles with his fretsaw and tools. Then he gave it up and my eldest brother took up the paper and made things for his home. My other two brothers also took it up and now I the youngest of the lot am interested and have made several articles already. I think I shall take it in for a long time to come yet ! "

DO you know what Semana Nautica is ? George, of course, thought it was something for his stomach in the form of whelks because the second word was nautical ! Really, it is a marine festival held in Southern California, America, and it is interesting to us because hundreds of model ships are on view. Some of the winning entries in the last exhibition are shown in the picture, and as you see most of them are replicas of old-time sailing vessels, the Mayflower, Spanish Galleons, Mediterranean fishing barges, etc. An event such as this is worth working up in your own district during the summer. There are many readers interested in the hobby.

The Editor

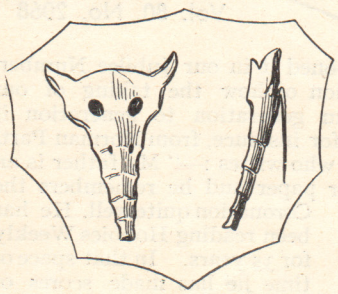
Send your own simple tips to The Editor, Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.

HINTS AND TIPS WORTH KNOWING

For original Tips published the sender will receive one of Hobbies Self-filling Fountain Pens. We cannot acknowledge or print all tips sent in.

A Fox's Head.

THE following suggestion is particularly interesting to Cubs who may desire a badge. If the end of a rabbit's backbone is



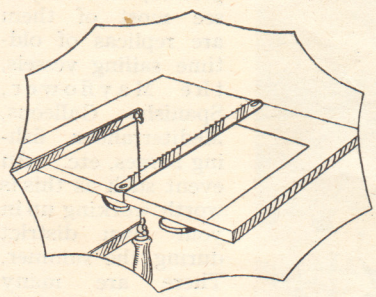
cleaned, it very much represents a fox's head. This may be mounted on a pin and painted.

Bootlace Tags

IT is very annoying when the metal tag comes off one's shoelace. To remedy this, smear the end of the lace with glue or strong gum and with the fingers twist the sticky part to a point. When it has set, it will be found that the point is almost as strong as the proper metal tag.

Cutting Straight.

IT is difficult at times to cut a dead straight line with a fine fretsaw, but if you take a hacksaw blade and rub the back with a piece of emery paper to smooth it, you will find that you can cut straight lines if the blade is



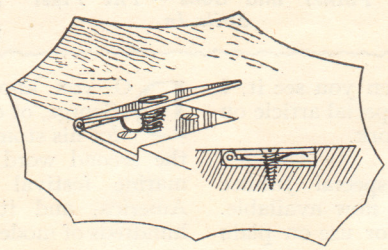
pressed flat on the surface of your wood, with the thumb, first and second fingers of your disengaged hand. Do not touch the teeth as these tend to hold but do not mark the wood.

Cycling Hint

HAPPENING to be a long way from a town on a bicycle tour, with a puncture and no patches left, a good plan is to obtain a short piece of string and tie one piece on each side of the hole in the tube. Blown up, this will last for quite a distance, certainly until arriving at the next town, where some more patches might be obtainable and the puncture repair effected properly.

Hinge Bench Stop.

CUT a square hole in the bench or table and screw one flange of a strong hinge to the bottom of the hole. Bore hole for countersunk screw. By means of tightening or loosening the screw, the



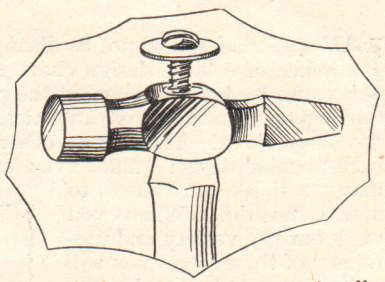
height of the bench stop can be varied according to desire. A flat spring or clock spring is fastened to hinge for convenience.

Model Windows

SOME readers when making models, often wonder what to put for windows, as in the case of the last model of the air liner 'Heracles.' First paint the frame of the window and the curtains in black or any other colour, then cut a bit of transparent adhesive tape (the sort used for repairing music and books) the size of the window. Stick it on and you will find it shows the window frame and the curtains up clearly and the paper itself gives an excellent impression of glass.

Hammer Head Hint.

HERE is a useful hint for the best way to prevent a hammer head coming off. Obtain a long thin screw and washer. Put the washer on the screw and drive



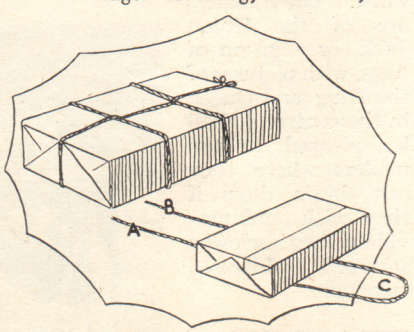
the latter into the hammer handle. The washer will then hold the head on as can be seen in the drawing herewith.

A Dibber

HERE is a use for an old garden fork, which is unsuitable for further gardening service, but has a good handle. The handle can be cut about 1ft. 6ins. from the top, the end sharpened to a point and smoothed off.

Rapid Parcelling.

THE accompanying sketch shows a way which a parcel can be easily and quickly tied up, without using knots. First take a length of string, double it, and



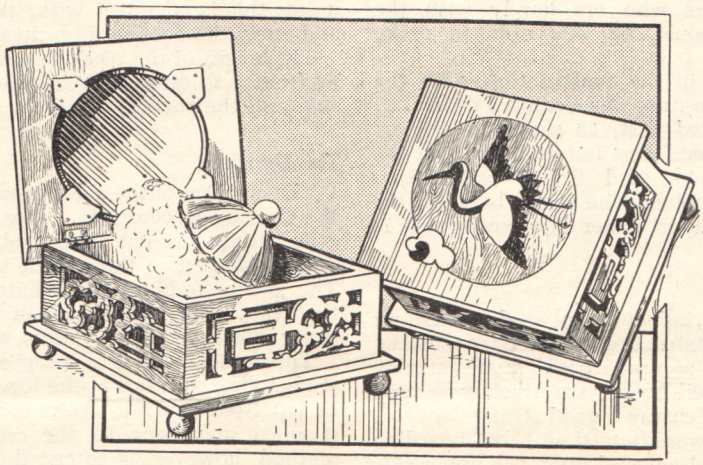
lay your parcel upon it, as shown in Fig. 1. Then pass the ends 'a' and 'b' through the loop 'C' and pull them in opposite directions; the result is shown in Fig. 2. The parcel is then turned over, and the ends 'A' and 'B' are tied together in the usual way.

FRETWORK POWDER BOX

See pages 228 and 229

A DAINTY little box specially constructed for holding a powder puff, the requisite small box of cosmetic and suitable for a place on any dressing table, can be built in wood from the patterns printed in the centre pages of this issue. The box is 4½ins. square and fitted with a lid which contains a circular mirror on the inside. The edges of the box are simply fretted, whilst the outside of the lid is provided with an inlay panel in wood which is of striking design.

The box, too, is particularly appropriate as a gift to anyone where a new baby has arrived, because the stork on the lid is a typical decoration, and the powder puff inside, a constant necessity.



A special parcel of whitewood with feet and inlay wood for the lid is supplied complete for 1/- by Hobbies Ltd., whilst the small brass hinges and mirror with lining cloth only costs a further 10d. The whole thing, therefore, can be completed for less than 2/-, and is worth considerably more if well done.

The whole of the work, of course, is undertaken with the fretsaw, and the patterns themselves can be pasted down to the wood, or a tracing taken if you do not want to spoil the copy of Hobbies. The construction is quite straightforward, and when each part has been cut and cleaned up with glasspaper, there should be no difficulty in fitting the pieces together.

All the main parts are in 3/16in. wood. The base is 4½ins. square and has a small hole drilled in each corner to take the fancy ball foot (No. 14) illustrated on the patterns.

The front, back and two sides are glued to this base with the sides between the back and front, care being taken to get all the parts square and upright. Screws can be added from underneath if required.

The Lid

The lid, as shown in the picture, has the mirror on the underside, and a circular overlay pattern on the outside. The former is held in place by fancy wooden clips composed of two pieces of 1/16in. wood glued together with a small base overlapping to form a rebate. These pieces are shown full size on the patterns, where a detail is also given showing one inverted, and a section showing it put in place to overlap the edge of the mirror.

Lay the little circular mirror in place, and then glue the clips round it to form a square on the outer edge. Their position is clearly indicated on the pattern of the lid by the dotted lines. The other dotted lines on this pattern show where the hinges have to go. These are ⅜in. or ½in. brass, and must be screwed carefully there so they may come in the right position on the edge. We will, however, mention this later.

Before hinging the lid, the overlay panel should be glued on. This small circular decoration is cut from three different kinds of wood, and makes a striking panel. A piece of whitewood, satin wood and padouk — or three similar contrasting woods— are nailed together, and the pattern shown in the bottom right-hand corner pasted on the uppermost one.

A fine drill hole is made, too, in one of the wing tips of the bird, and an equally fine sawblade threaded through. Then the saw cuts along the lines given, so that three pieces each of the same shape continue to fall out. Of these three pieces, only one will be required to make the picture, and the key (in the pattern of the lid) will show which wood to use.

The Frame

Having completed the details of the bird, and cut out the two fancy pieces in the left-hand corner, the outer edge of the circle should be cut round to release the three boards. The framework of satin wood is then glued to the outside of the lid in its proper position, care being taken to get the bird flying from right to left when the hinges are above.

The smaller parts of the bird are then glued in their place in the correct pieces shown according to the key. Weight the whole thing down until the glue has set, and then the lid is ready for hinging.

Before actually putting on, however, see that the under edge of the back is chamfered to a long angle as shown by the sectional drawing on the pattern sheet. Here you see how the lid is hinged and how the chamfer cut holds the lid when it is thrown open.

Finally add the four small ball feet into the holes previously drilled in the base, and glue the lining material round the inside of the fretted sides.

A HOME-MADE TRAILER CARAVAN

Just the thing for the home carpenter to make. A simple piece of work to make up ready for the holiday.

MANY of the caravans seen upon the roads at the present time are both sumptuous and costly, but there also seems to be an increasing demand for light 'vans' cheaply and easily constructed, which can be used as a trailer for any light car. The following description and illustrations are of a caravan which was constructed two years ago and has given every satisfaction in use since. Readers who are handy with the carpentry tools should be well able to make it themselves.

The timber used in the construction, with the exception of the covering, was clean red deal. The floor was constructed first, as shown in Fig. 1. For it 3in. by 2in. bars were notched 1in. over the 3in. by 2in. runners, and firmly bolted into position with $\frac{3}{8}$in. bolts. The joints between the bars and the rails upon either side, are shown in Fig. 1.

Lap Joints used

As far as possible, lap joints are used throughout the whole of the construction, to simplify matters, the joints being secured with stout screws. Tongued and grooved boards 1in. thick were used over the framing to ensure a good strong floor.

The wheel boxes were framed with 1in. boarding suitably shaped, and covered upon the upper side with stout tin, though three-ply may be used with equal satisfaction. The main essential in the construction of the wheel boxes is to ensure that the distance between the wheel and the crown of the box exceeds the distance between the top of the axle and the underside of the runner. When travelling over rough roads, there is a possibility that unless this is complied with, the springs may sag and allow the floor to drop upon the wheels.

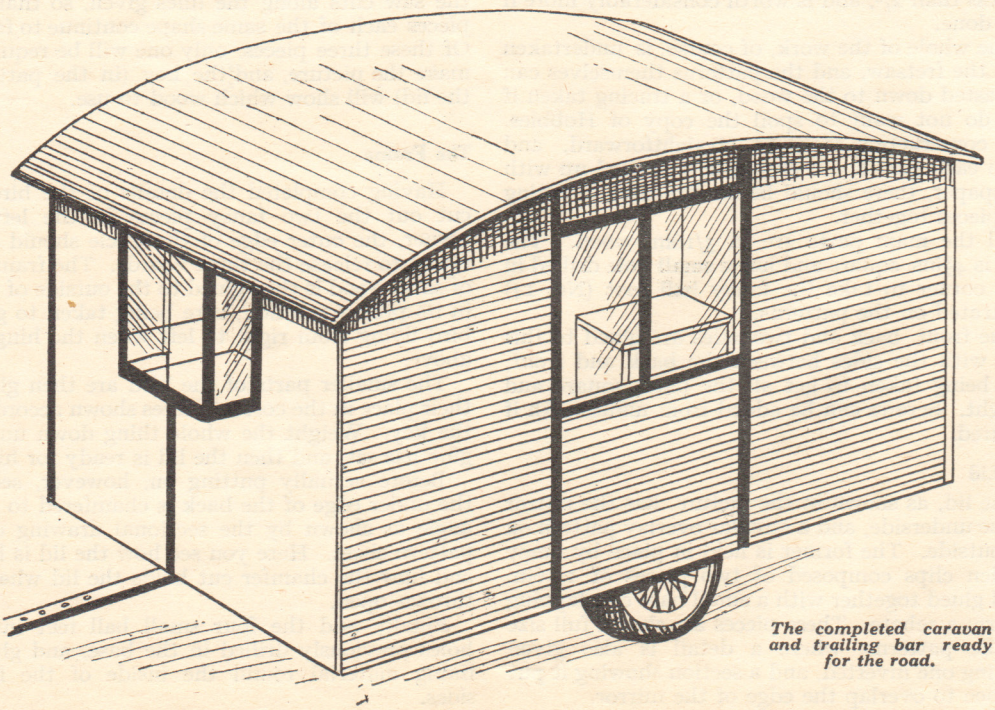
The height of the wheel box at the crown should be from 5 to 6ins., and the distance between the axle and the runner, not more than 2ins.

The Uprights

The erection of the sides is proceeded with when the flooring is complete. The vertical members, called studs, are cut from timber 3ins. by $1\frac{1}{2}$ins., and are shaped on the outside to a curved outline. This is done to improve the external appearance of the 'van.' The joints between these studs and the lower rails are plain lap joints, screwed together.

The same method is adopted for securing the studs to the cant rail at the top. This cant rail can be cut from a plank to the required curve, or be steamed and bent to the outline. A simpler method, however, is to cut the rail from 4in. by $1\frac{1}{2}$in. stuff, curved only upon the upper edge. This

(*Continued on page* 222)



The completed caravan and trailing bar ready for the road.

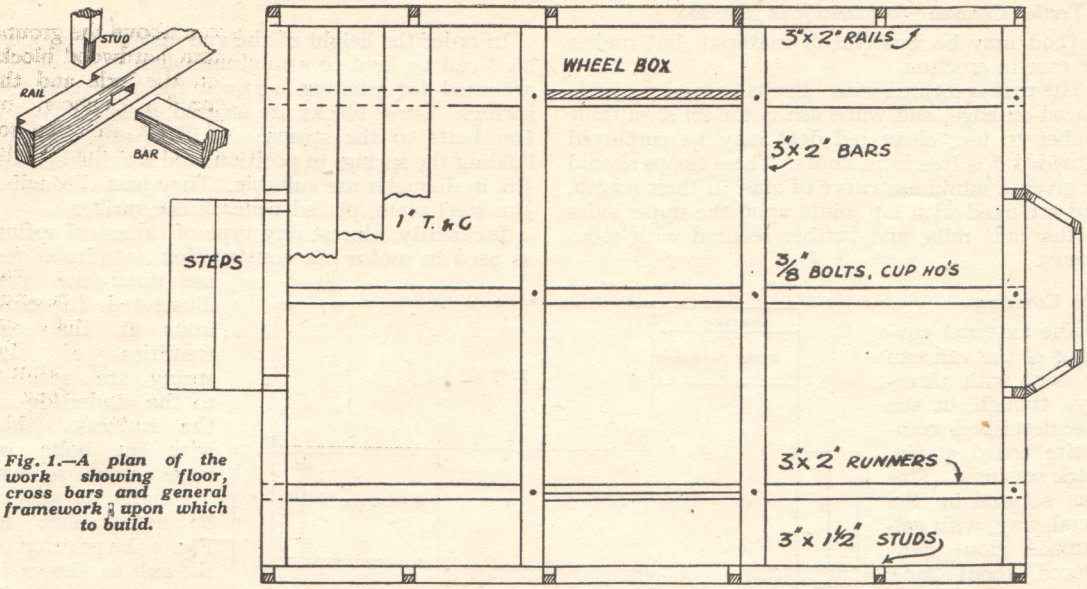


Fig. 1.—A plan of the work showing floor, cross bars and general framework upon which to build.

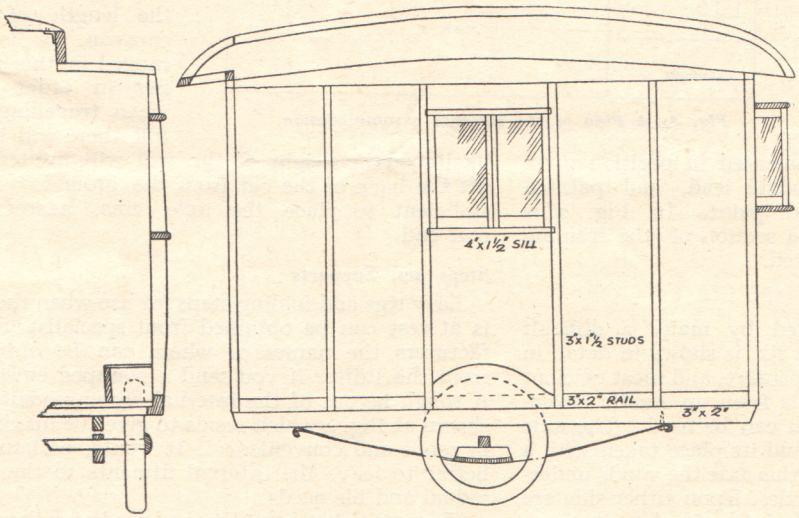


Fig. 2.—A sectional view showing uprights, how the roof is fixed, with window and wheel box.

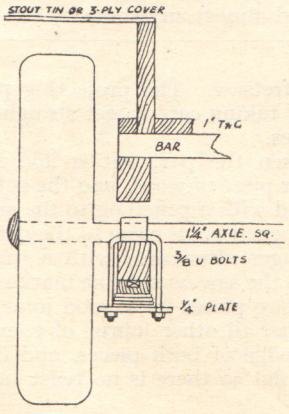
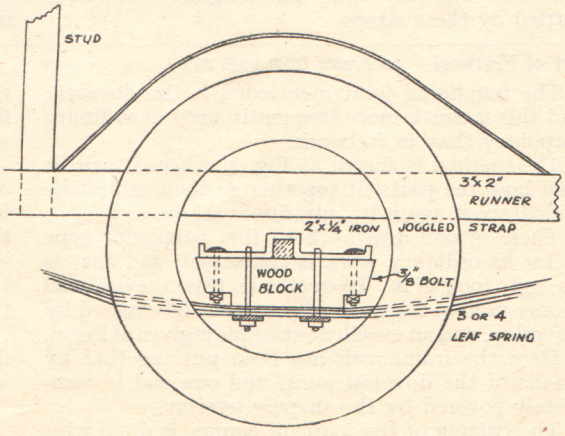


Fig. 3.—Details of the undercarriage with views of the springing axle, bar, runners, etc. for the chassis on the framework.



A Trailer Caravan—(*continued from page 220*)

method may be wasteful of material, but makes for ease in erection.

The roof is formed with ' hoops ' 2ins. by 1½ins., placed on edge, and while ash is the most suitable timber to use, clean red deal may be employed provided it is free from knots. These hoops should be given a minimum curve of 2ins. in their length, and are fixed with lap joints upon the upper sides of the cant rails, and further secured with stout screws.

The Covering

The external covering of the van can be done with three-ply, though in the case described, composite board 5/16in. thick was used. This was secured in the usual way, with galvanised clout nails spaced about 3ins. apart, the joints being covered with lengths of 1in. by ½in. band mould.

To ensure a watertight roof, the composite board was covered with canvas, cemented in position upon a layer of goldsize and white lead, and painted two coats of white lead paint. In Fig. 2 is given an elevation and a section of the framing before the covering is fixed.

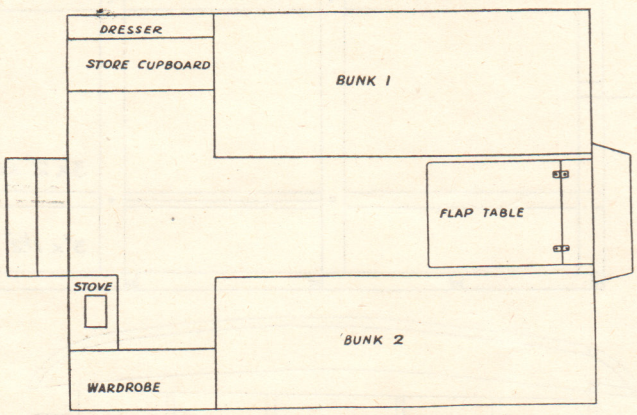


Fig. 4.—A Plan of the internal accommodation.

The undercarriage

The chassis, considered by many a difficult proposition to arrange or fix, is shown in detail in Fig. 3. It is simple, inexpensive, and most efficient in use. A pair of wheels from an Austin seven, Morris minor, or Morgan can be used. The axle casing is first removed, and its place taken with a 1¼in. square axle, Upon this axle the van is underslung, fitting upon the axle. Upon either side are two joggled straps, made from 2in. by ¼in. iron, drilled to take ⅜in. bolts. The weight of the van is carried by these straps.

In order the height of the van above the ground level can be kept to a minimum, hardwood blocks are used for packing between the axle and the springs. These blocks are secured, as is shown, by ⅜in. bolts to the straps. U irons are used for holding the springs in position, and for this U bolts ⅜in. in diameter are suitable. They pass through a ¼in. steel plate, placed beneath the springs.

Incidently, almost any type of three-leaf spring as used in motor car construction, is suitable for use upon the van illustrated. The scroll irons at the extremities of the spring are secured to the underside of the runners either with ¼in. bolts, or large stout screws.

Finally, it should be noted that in Fig. 2 the position of the axle as shown is not quite central in the length of the caravan. It is arranged in this manner in order that when travelling uphill there will be no likelihood the weight of the van will not tend to lift the back of the car from the ground. It is sufficient to place the axle 2ins. nearer the rear end.

Steps and Supports

Lazy legs and folding steps for use when the van is at rest can be obtained from specialist manufacturers, the names of whom can be obtained from the Editor if you send a stamped envelope. A rough layout of the internal accommodation is shown at Fig. 4 which seems to give the maximum in room and convenience. It would, perhaps, be better to leave the internal fitments to the individual and his needs.

This van, when complete and ready for the road, is so light and easily manoeuvred, that it can be towed almost anywhere by the average 8 h.p. car.

Art of Fretwork—(*continued from page 237*)

The remaining joint mentioned is the dovetail, and this is much more frequently used in ordinary carpentry than in fretwork.

The method is shown at Fig. 5, where it can be seen how the parts fit together so they cannot be pulled apart again by any direct strain.

There is one drawback to this particular type so far as ordinary work is concerned, and that is the ugly look of it. To overcome this, the dovetail is only used in fretwork where it can be covered by a overlay, and an excellent example is given at Fig. 6.

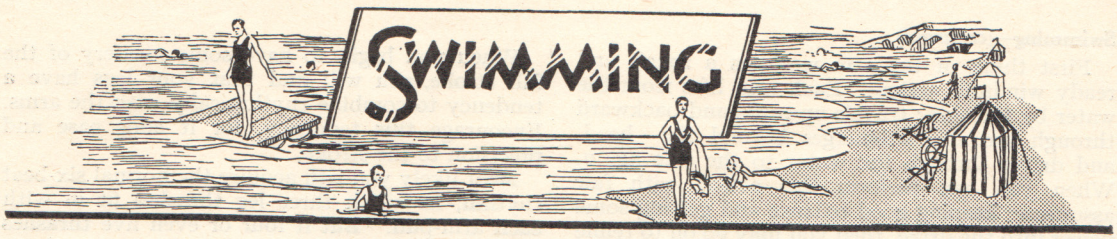
Here the framework has been put together by means of the dovetail joint, and one end is completely covered by the shapely overlay.

The cutting of the joint, of course, is done with the fretsaw. The projecting piece should be cut first, taking care to get straight edges and shaped angles.

Then the part cut is laid in position on the other piece of wood, and the actual outline marked round with a pencil on to the actual material. Get the pencil point close to the cut edge and line it in stronger afterwards with a ruler. When cutting, keep the saw on the line marked, and then test out the two pieces for a good joint.

Like all other joints, of course, glue is used on the edge of both pieces, and the work should be laid flat so there is no twist in it when set.

(*To be Continued*)



A new series written by an expert, giving you a variety of interesting methods well worth doing

BACK-CRAWL is the newest of swimming strokes, and it is the most graceful. It naturally followed breast-crawl, for the idea would occur to many—if breast-crawl is so fast and easy, why not turn face upwards and perform the same movements?

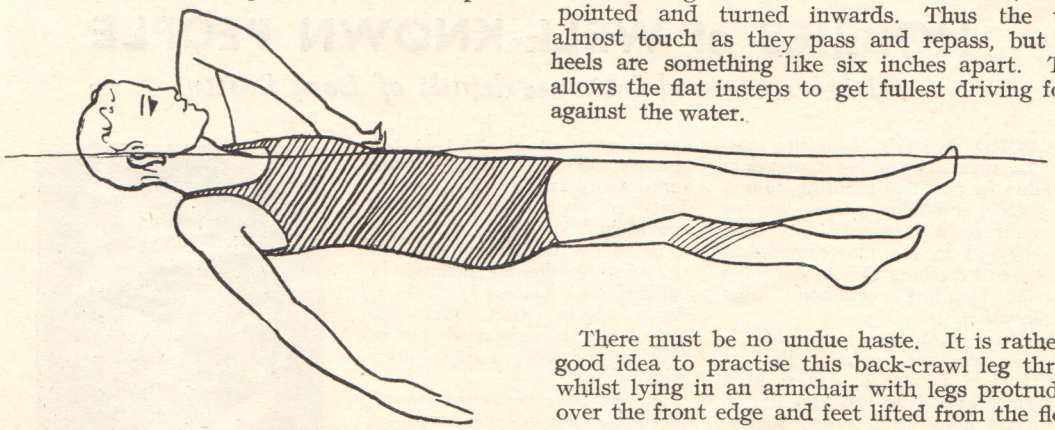
Back-crawl is even easier than the common face-downward crawl, for it avoids the necessity of having the face under water most of the time, with the consequent difficulty of "aquatic respiration." In back-crawl, the face is never submerged, so that you need not, unless you like, exhale through the nose and breathe in through the mouth. Breathing can be normal—nose inhalation.

Body Position

There are two main parts of back-crawl—leg work and arm work—and these must be practised separately. It is well, however, to do a little preliminary work before going on to the actual study of movements.

This preliminary work consists of acquiring the correct body position.

If you already swim on your back, the thing is simple. Simply scull yourself along, with hands at sides, until you get the desired poise. In other forms of back swimming, the aim is to keep the



body quite straight, and the stomach awash. In back-crawl, the middle of the body must be allowed to sag, six to twelve inches, so that there is water above the legs into which they can make their upward kicks.

This slightly-sagging position is helped if you lift your head sufficiently to allow yourself to look towards the feet—or rather that point on the surface where the toes will emerge when they make their upward thrash.

If you are not used to other forms of back swimming, you may lie through a motor tube, or hook your feet under the rail of a bath, or have a friend supporting your legs, until you are able to perform this scooping, paddling movement, with the hands, down by the sides of the body, which will be sufficient to keep you afloat. These movements by both hands simultaneously, scoop the water under the body and towards the feet.

Take care to keep the body as relaxed as possible. As soon as you feel quite comfortable, you may go on to learn the leg action.

The same method of support will be needed which you have already made use of—either strong sculling, or inflated motor tube. The point is that your legs must be clear and yet you must be lying properly on the surface.

Foot Work

The legs thrash up and down, so that they are constantly driving out narrow wedges of water. Each foot in turn sinks twelve to fifteen inches, then swirls up to the surface—no more than the toes breaking above the water. The feet should be pointed and turned inwards. Thus the toes almost touch as they pass and repass, but the heels are something like six inches apart. This allows the flat insteps to get fullest driving force against the water.

There must be no undue haste. It is rather a good idea to practise this back-crawl leg thrash whilst lying in an armchair with legs protruding over the front edge and feet lifted from the floor.

Thrashing and Sculling

You should not go on to the practice of the arms until you can keep yourself afloat and drive yourself along head-first by means of the leg thrash, plus hand sculling. When you are confident thus far you should begin to add the arm action, thus attempting the full stroke. Alternatively, you may support your feet by a bath rail or step and try over the arms by themselves.

Swimming—(*continued*)

First think of the arm work as a rough and ready windmill action. Each arm lifts from the water by the side ; travels upwards and backward through the air ; submerges beyond the head, and drives through the water to the side again. When you can perform this action with fair assurance, keeping good balance and getting some power into the drive, then you may go on to refine the movements.

The Drive

Of course, one arm recovers through the air while the other drives through the water ; the backward recovery thus takes approximately the same time as the forward drive. But for the drive the arm is stiff, while for the recovery it is limp—this is very important.

Also, see that the hand is flat for the drive, and so gets fullest pressure. The arm should not go too deep, which will roll the body by dragging the shoulder down ; nor too shallow, which will swerve the body from its straight course. It must find its own, best depth.

Another Recovery

As you gain experience you may develop the bent-arm recovery. In this the forearm and hand droop limply from the elbow during the first part of the recovery movement ; but swing over quickly when they are above the head so that the arm is quite straight when it is ready for its dip.

When you begin to have some mastery of the full stroke, you will find that your legs have a tendency to combine rhythmically with the arms. Encourage this tendency, for it adds ease and precision to the stroke.

Most likely you will acquire the normal six-beat rhythm, in which three leg thrashes fit in with each arm-pull. But if four or even five thrashes seem to suit you better, then be content with an eight-beat or ten-beat mode. Anyhow, emphasize the first of each group of thrashes, which coincides with the beginning of each arm pull.

Points to Note

Take a new breath for every complete cycle of movements.

Don't hurry your actions. Make them big, deliberate, powerful, graceful.

Particularly make them graceful—for that is always the sign that the stroke is being properly performed.

Watch that your knees do not bend, though it is permissible, and desirable, that they shall have some degree of suppleness. Watch too that you get as much relaxation as possible, for this not merely prevents you tiring, but makes your body more buoyant.

Back-crawl can be very fast, but remember, only accuracy can give speed.

HOBBIES of WELL-KNOWN PEOPLE

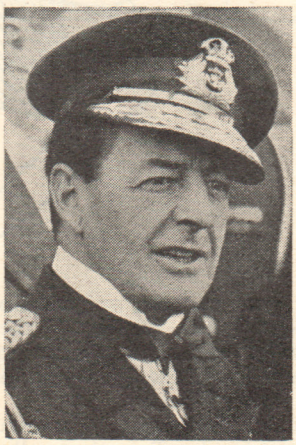
Interesting and Intimate details of Lord Beatty

LORD Beatty's favourite pastime has nothing whatever to do with the sea—yachting, tunny-fishing or whaling perhaps are too mild to a man who has been engaged in the more important task of catching Britain's enemies and guarding our shores from invasion.

In a word, the hunting field is his favourite sport. Perhaps there is a spice of danger in it which appeals to this lion-hearted naval hero—he has had several narrow escapes in recent years, and perhaps the love for horses is in the Beatty blood, because he has a brother who is a famous trainer of horses.

Lord Beatty has a town house and four country houses. He spends most of his time in the country and only comes to London for important functions which Duty and his position demand he should do. The Priory at Reigate is noted for its rose gardens and the Admiral takes a great pride in exhibiting his blooms at the local flower shows. Golf does not appeal to him very much but in Scotland he likes a day's deer-stalking.

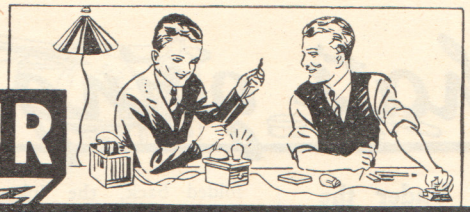
At one time he owned several race horses but he loves horses for their own sakes and not for what he is able to make out of them. He never gambles—except perhaps about one thing. It is this. He is prepared to bet anyone that Britain will need a bigger Navy !—G.G.



Look out for further people in this popular feature !

A SHOP WARNING

The AMATEUR ELECTRICIAN



An electric Bell Fitting under the shop doormat

SHOPKEEPERS are often troubled by petty theft because people can come into the shop without the owner knowing. Some customers leave the door slightly open so the trigger bell will not work when the next person comes in. This trouble can be easily overcome by fitting an electric warning and readers can consult the various catalogues issued by electrical suppliers, and thus obtain the contacts most suitable to their own particular needs. We can give them addresses if a stamped addressed envelope is enclosed.

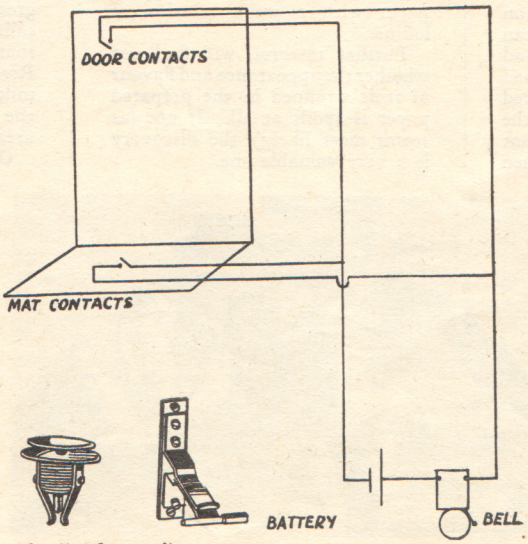
Accessories Required

The wiring is exactly the same as that for an ordinary electric bell and the usual methods of installing are adopted. Use No. 20 double bell wire and a single dry cell. If the house is already fitted with an electric bell this could be used but it has many disadvantages since it may cause, even if an indicator board is fitted, trouble to other people in the house. If a person is upstairs and hears the bell he will not be able to tell if it is the door or the shop and to overcome this it is better to fit a distinctive and different toned bell or a buzzer. This method saves an indicator board.

Having obtained a suitable bell, mount it in a convenient position and wire it up in series with the battery, taking the wire to the shop door.

Two contacts are shown, a pair for under the mat, known as 'under mat' contacts, and a pair for over the door. Of course the quality and pattern will depend on the installer, but it is well worth while to fit the best as they have to withstand very hard usage.

A good plan is to wire an under-mat contact in parallel with one operated by the door. Thus if in summer time the door is left open, the bell will ring because of the under mat contacts. The wiring up of the contacts must be done with considerable care, especially those under the mat. Drill a hole in the floor boards to take the body of the switch. If possible, take up this board since the wires to the bell and battery must be underneath and *not* on top, take the wires to the door post and up to the door contacts.



The "under mat" contacts. Wires lead up to the screws.

The circuit for the fittings explained

Getting the End

If the floor boards cannot be removed, then drill a small hole by the door post through the floor board. The next operation is termed 'fishing' and consists of getting a piece of strong bare wire through one hole and out at the other. The bell wire is then attached to one end and pulled through. The easiest way of fishing this small length is to use two short lengths of wire with a small hook at each, moving the wires about from each hole until the two hooks engage. Then pull one wire through with the bell wire after it.

Wire the two sets of contacts in parallel (see the circuit diagram) and connect them up to the bell and battery.

Bell Transformers

Some readers have thought of installing bell transformers to work their sets, which, of course is the best and cheapest power supply but has the disadvantage that it should be installed by a competent electrician. However, if readers are interested, a short and detailed article on the subject can be given. If the installation is to comply with the regulations, the instructions will have to be followed to the letter.

A few words on the power supply will not be out of place. Do not use accumulators unless you can charge them at home and fully understand them. Dry batteries and wet cells are the best, the latter being the cheaper in the long run. When installing, use good quality vaseline on all screw terminals and pour paraffin oil to a depth of ½in. on to the surface of the electrolyte. For details of renewing dry cells and wet ones, see other notes on the subject that have appeared in this series.

For a complete list of the various articles on Electricity see Index to Vol. 79, price 4½d. post free.

What's going on

A popular Science feature

Nothing New Under the Sun !

MODERN engineers are learning points from Stephenson's "Rocket" ! Henry Ford considers the principles of its design extremely valuable for training purposes. So now an exact copy of the old "iron horse" stands in the Ford works museum at Detroit.

As a matter of fact, Mr. Ford wanted to buy the famous original itself—one of the most popular exhibits in the Science Museum at South Kensington. He failed. And then asked the firm of Robert Stephenson & Company to build him a duplicate complete to the minutest detail.

Stephenson's own plans and drawings—musty with age—were brought out. Particulars of some of the parts were missing, however, and long-retired craftsmen had to be consulted. After many months of painstaking effort and at a cost of several thousand pounds they produced a full-size copy of the world-famous engine.

Jack Aloft !

NO doubt many of you fellows have been aboard an aircraft-carrier during some Navy Week or other. But perhaps you've not realised what a scientifically organised business this sea-flying is.

The 'planes take-off with an amazingly short run. They can only do so because a high and constant wind-speed is maintained along the flying deck. Obtained simply enough by turning the ship's head into any breeze that happens to be blowing and then steaming along just fast enough to increase it to the required strength.

But you should watch those "birds" come home to roost. There goes the landing signal. That means the deck is clear and the "ground staff" standing-by to "catch the machine in."

The pilot throttles back his engine and loses height until about 500 feet above the sea and immediately astern of the ship. A moment or two later he drops quietly to rest. Men swarm around, wings are folded back, the 'plane is rushed on to a lift and sinks swiftly from sight. In no time everything is ready for the next comer. Pretty work !

Looks easy enough. Actually, that pilot's wits have been working overtime ; all he's got to land on is a moving iron platform. And not a very large one at that ! The slightest miscalculation would probably put man and machine in the "ditch."

Exceptionally accurate navigation, too, is necessary to pick up the parent-vessel across many miles of sea. Incidentally, each machine is fitted with "flotation-bags"—watertight canvas affairs which can be inflated from a compressed-air bottle—in case anything should go wrong.

Treating Trees Like Teeth !

EXPERTS are going round the country "stopping" hollow trees in much the same way as a dentist would a bad tooth. They fill cavities in the trunk with a special sort of cement which prevents the decay from spreading.

The Answer's A..... ?

FRUIT often goes rotten because of a fungus growing on the skin. Recent experiment has shown, though, that this can be avoided by treating the wrapping paper with a weak solution of iodine.

Further research will find out whether the appearance and flavour of fruit wrapped in the prepared paper is spoilt at all. If not (as seems most likely), the discovery is a very valuable one.

Iodine is not cheap, of course. But one ounce is enough for nearly 600 square feet of paper.

How Is It Done ?

HERE is an astonishing little scientific trick to try with your friends.

There must be five of you. One (the heavier, within reason, the better) sits on a chair. Two of the others stand behind him with another at each side. Put your forefingers together and (according to position) place them either beneath the "victim's" arm or behind his knee. Attempt to lift him with no other support than this. You see—it can't be done ; not more than an inch or so, anyhow.

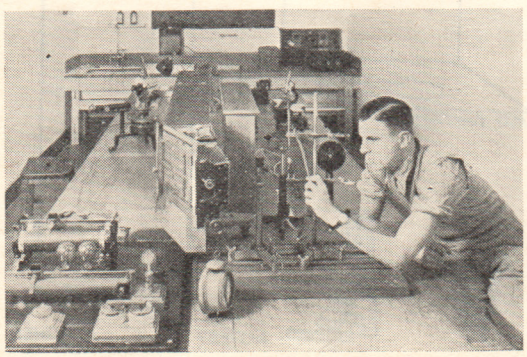
Now rest your hands one on top of the other upon his head. Concentrate like this for, say, a minute. Then try to lift again just as you did before. All together—hup ! And up he goes with the greatest of ease !

Colossus !

BOULDER Dam — perhaps modern engineering's most magnificent feat—is finished. This great thirty million pound mass of solid concrete that harnesses the roaring waters of the Colorado River will turn a 1,000 square miles of desert waste into one of the wealthiest and most fruitful areas in the United States.

Over four million cubic yards of concrete went to the making of Boulder Dam. And you can get some idea of the vastness of the thing by picturing it as being about five times the height of Nelson's Column in Trafalgar Square. The reservoir is 115 miles long. It will take three years to fill and then there'll be enough water to cover the whole of this country to a depth of a foot !

Compare that to your own effort in making a simple fish pond or little lake in your own garden !



Science in the Post Office Research Station, to whom we acknowledge this picture.

Tools every Handyman Needs

MITRE CUTTING TOOL AND CRAMP

A popular tool for cutting and gluing corners of frame moulding. The guide grips the saw so the angle of cut must be accurate, whilst the moulding is held in right or left-hand cramps. Takes moulding up to 4½ins. wide.

10/6

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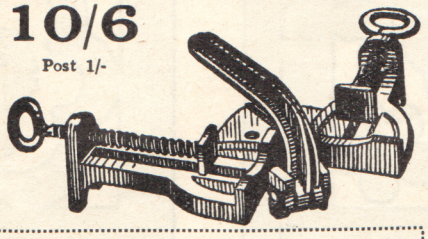
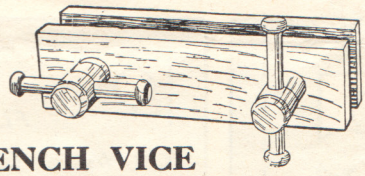


Don't judge value by price alone. It is what you get for what you pay that counts.



BENCH VICE

Turns a kitchen table intc a carpenter's bench. Well made and finished, of hardwood. Easily fixed through the holes provided.

12ins. long **2/3** 15ins. long **3/3**

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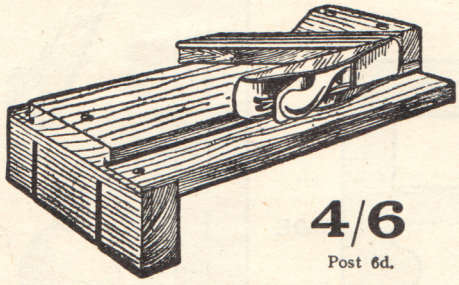
A double-purpose cutting board—one side for sawing mitres at 45 degrees, the other side for shooting them clean with a plane.



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you must use good Tools

The name of Hobbies is a guarantee that they are good, and any carpenter would be proud to use them. Cheap tools never do good work—here are some you can use for a lifetime—at prices to suit all purses, and every tool British made. Be sure of the best by insisting on Hobbies.

Every Tool is British

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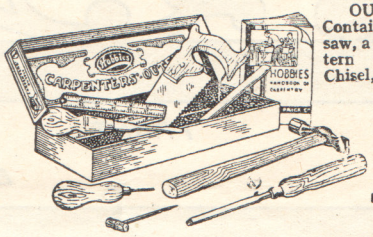

OUTFIT No. 1
Contains a 10in. Handsaw, a Warrington pattern Hammer, ¼-in. Chisel, Screwdriver, 2ft. Folding Rule, Bradawl, Gimlet, a Carpenter's Pencil and a 64-page Handbook.

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OUTFIT No. 2
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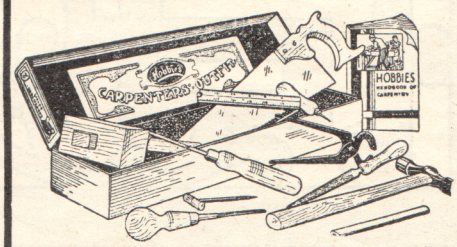

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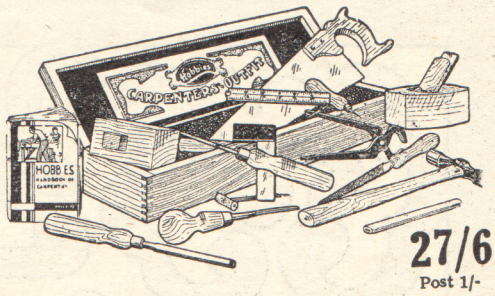

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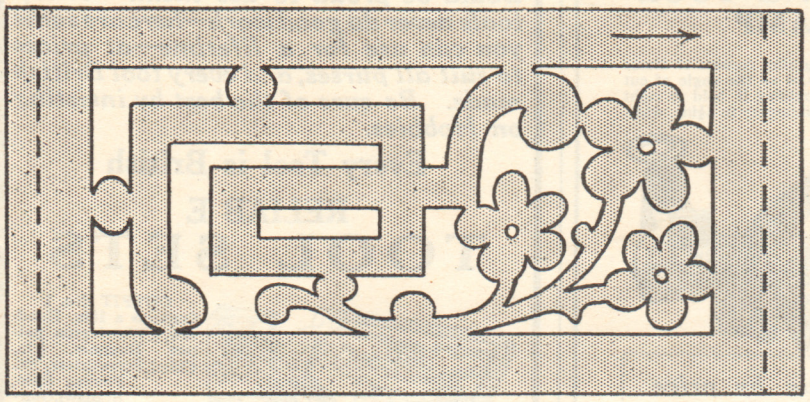
POWDER BOX with inlaid



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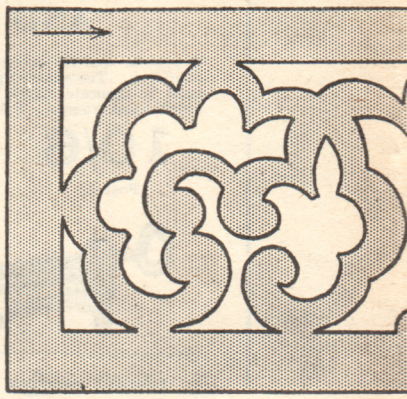
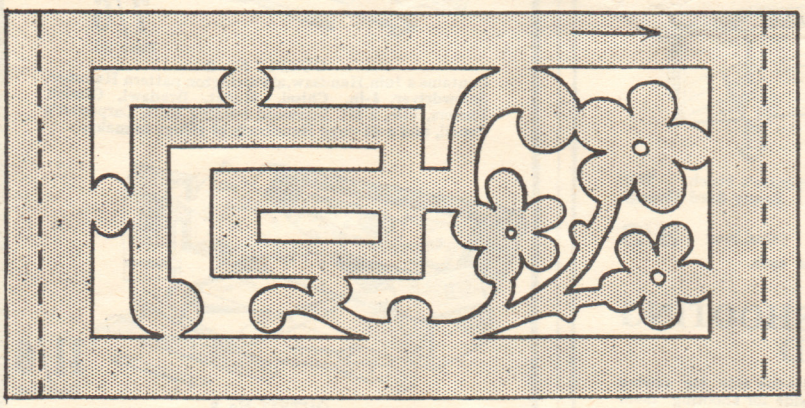


SIDE

WOOD 3/16 IN FOR ALL PARTS
EXCEPTING INLAY PANEL & CORNERS.



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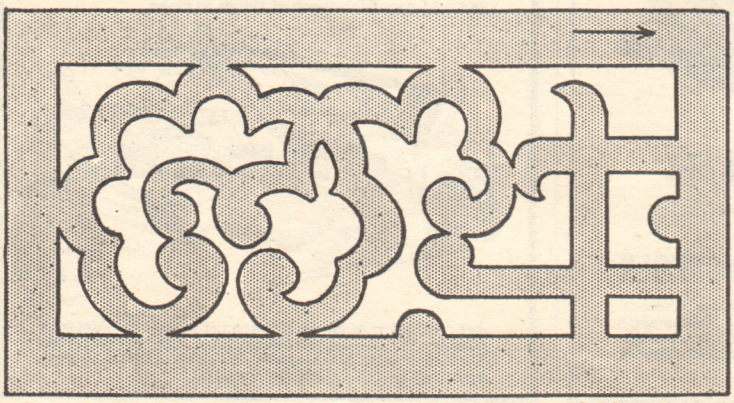

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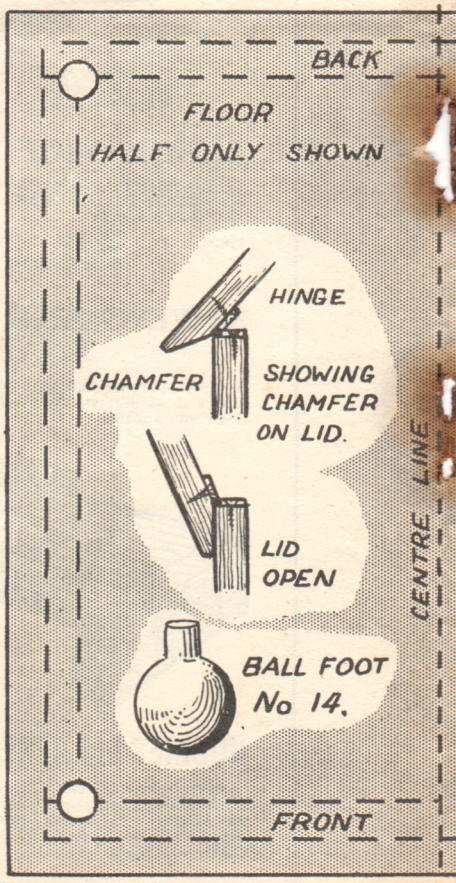

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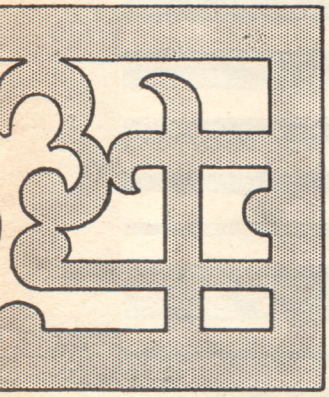
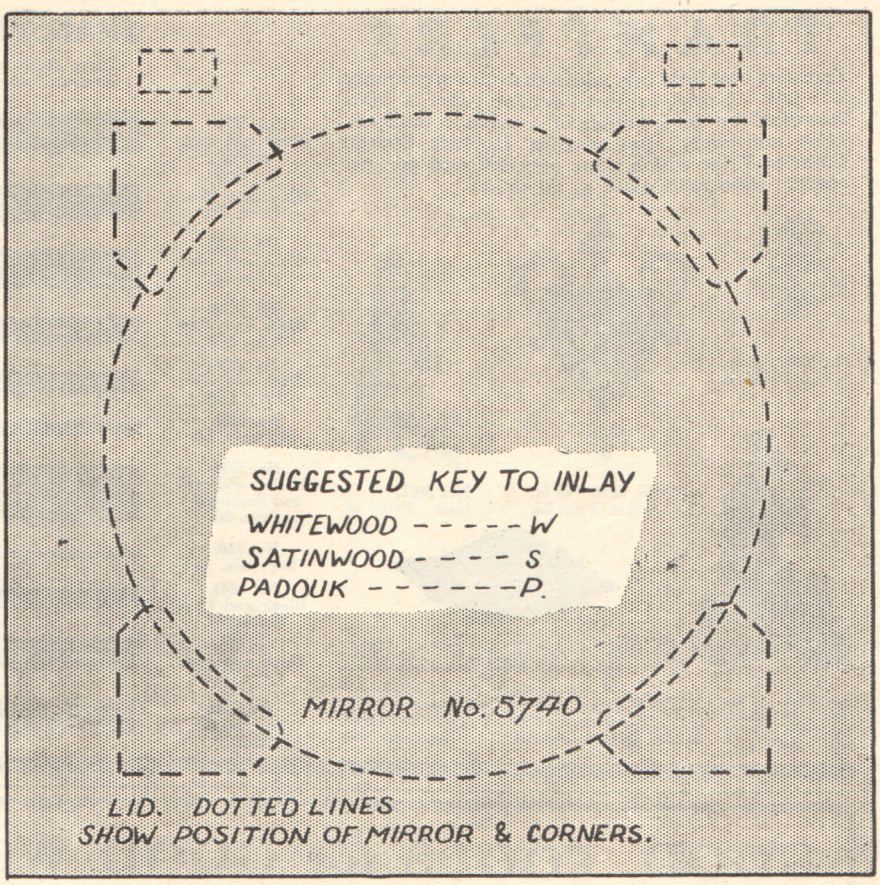
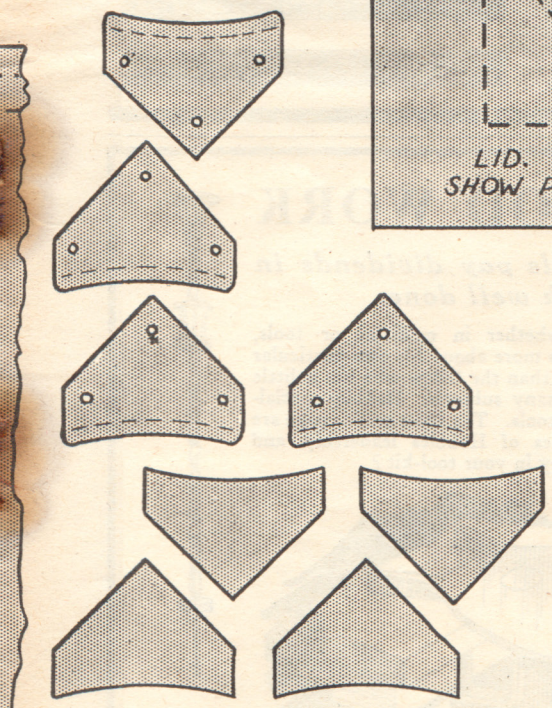
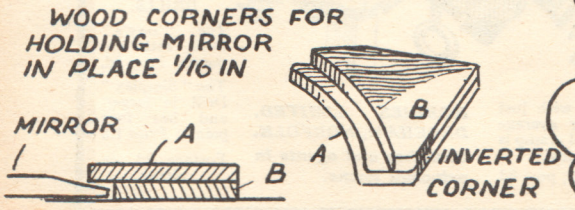
For full details see page 219



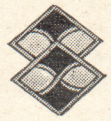






TRANSFERS

Transfers cost little but add lots to the appearance of a job. A tray, cabinet door, or panel is often beautified by the addition of a suitable transfers. They are easily applied with Hobbies Special Transfer Fixer which costs only 6d. and 9d. per bottle. Postage is extra to all prices.



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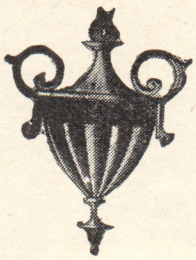

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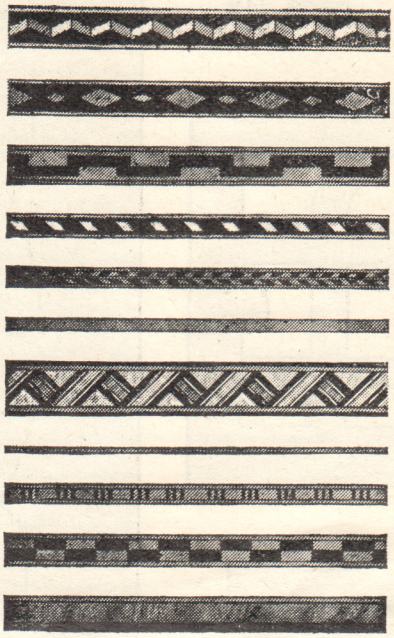

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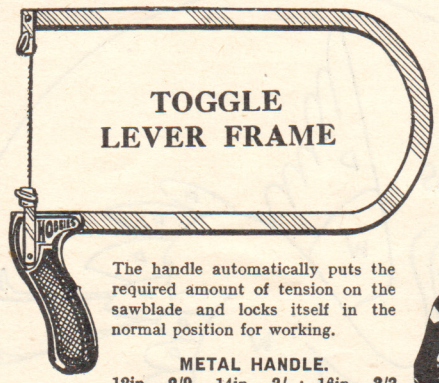
GOOD TOOLS for GOOD WORK



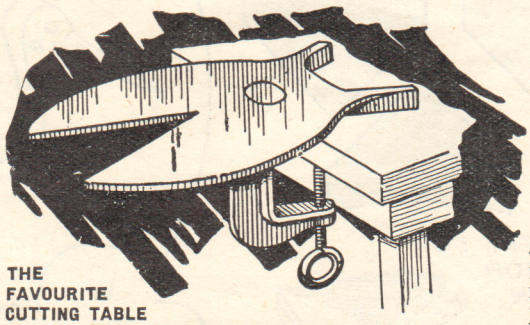
The handle automatically puts the required amount of tension on the sawblade and locks itself in the normal position for working.

METAL HANDLE.
12in., **2/9** 14in., **3/-**; 16in., **3/3**

BAKELITE HANDLE.
12in., **4/-**; 14in., **4/3**; 16in., **4/6**
Postage 6d. extra on each.

Good Tools pay dividends in good work well done.

A specialist, whether in medicine or tools, naturally knows more about his own particular line of business than the fellow who has a little knowledge of many subjects. Hobbies specialise in fretwork tools. The tools on this page are typical examples of Hobbies leadership and value. Are they in your tool-kit ?



SANDPAPER BLOCK.
The handle keeps the sandpaper strip taut. Price 3in., **4d.**; 5in., **9d.**
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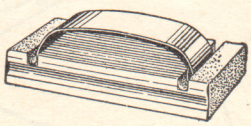

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DRILLS.
The "Boy's" Drill, with two points. Price **8d.**
The "Simplex" Drill is larger, and has four points. Price **1/3**
Postage 2d. on either.

OUR TOY MODEL RANCH

How's this for a pleasing toy to make? A new series now running which is sure to be popular. Make the parts in wood as they appear and you will have a realistic and complete model in wood for which a parcel is supplied.

THIS week we are giving the second article dealing with the model Ranch. The first instalment dealt with the making and finishing of the Cabin, and now we pass on to the stockade surrounding it and the open pens for holding the cattle and horses.

A good idea of the lay-out for these parts can be got from the sketch of the completed model in Fig. 1. Here we see the Cabin stood in place on the main base, but being built up independently it will not be screwed down until all the palisading and fencing is complete.

The Base Board

The base consists of a single piece of 3/16in. thick plywood, backed with four deal strips on the underside to keep it from twisting or warping. Two strips 21ins. long and two 14ins. long by 1¼ins. by ⅜in. thick will be required with the ends cut to a 45° mitre so neat corners are made as shown in the left hand enlarged detail in Fig. 2.

Glue the two side—21in. strips on first and put some ⅜in. flat-head screws down through the plywood with them. Then measure off for the end strips and attach them to the plywood in the same way, afterwards cleaning the rough edges of the plywood all round before commencing the upper structures.

The Stockade

The stockade is really a palisading made from some ¼in. square posts with ¼in. by ⅛in. rails connecting them. The latter are afterwards covered with half-round beading to represent the real thing.

The two side sections of the stockade are built up as one length having two square posts at the ends with rails top and bottom.

Or each side section may be in two parts (see Fig. 2) where 6ins. marks the length of each portion. This latter is perhaps the stronger method as an extra screw fixing can be got midway up through the base.

Post and Rails

When the posts and rails are together, the beading (Hobbies No. 35) is cut off in lengths of 2ins. and glued on. Fix the sections to the base with glue and screws and take careful measurement for the backpiece of palisading. This is made in one length, as added strength is given to it when the base portion of the log cabin is placed and fixed up against it. The enlarged detail on the right of Fig. 2 shows how the length comes in between the two side sections of the palisading.

The front palisading consists of the two tall posts bearing the name "Pine Ranch" on a shaped board, and a length of palisading each side. The construction is made clear by the detail in Fig. 2 and Fig. 3. Make the name board and posts first. The latter are 4¼ins. long and ¼in. square, the tops being simply shaped. The shape and size of the board are given in Fig. 3, and it will

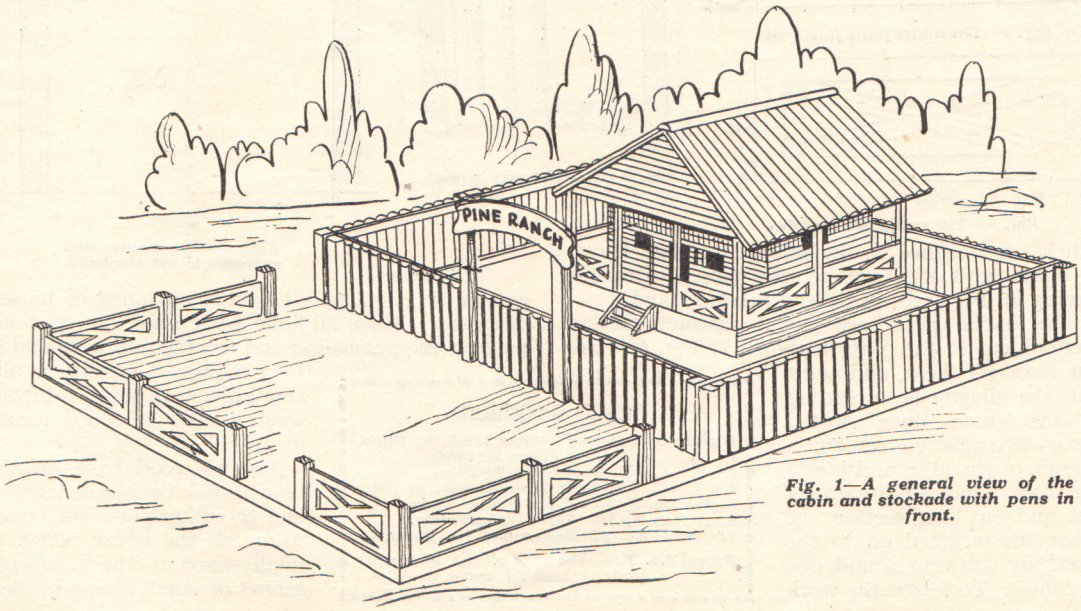


Fig. 1—A general view of the cabin and stockade with pens in front.

be cut from ¼in. wood and just glued and pinned to the posts. For the spacing of the lettering the squared diagram Fig. 4 should be found useful, indian ink or paint being suitable for filling in.

Allow a distance of 3ins. between the posts to afford easy working of the gate shown in Fig. 5. The hinges are formed by pieces of thin leather or tape to the posts and the gate.

The make-up of the gate is clearly shown and consists of two ¼in. posts with ¼in. by ⅛in. rails attached and the No. 35 beading glued along the front. Next glue two pairs of rails, ¼in. by ⅛in. to connect up the posts with the two shorter ones

of cutting, two sections may be cut together by previously pinning up two pieces of ⅛in. stuff, inserting the fret pins in the waste wood.

Clean the surfaces both sides and then cut the posts which are glued on at intervals round the base (see Fig. 2). Each post is 1½ins. long, and in cutting take care to get the ends square or they will not stand erect or look neat along the tops when fixed.

The posts are glued to the base and spaced out as shown in Fig. 2 with the panels afterwards glued between them.

Note should be made of the

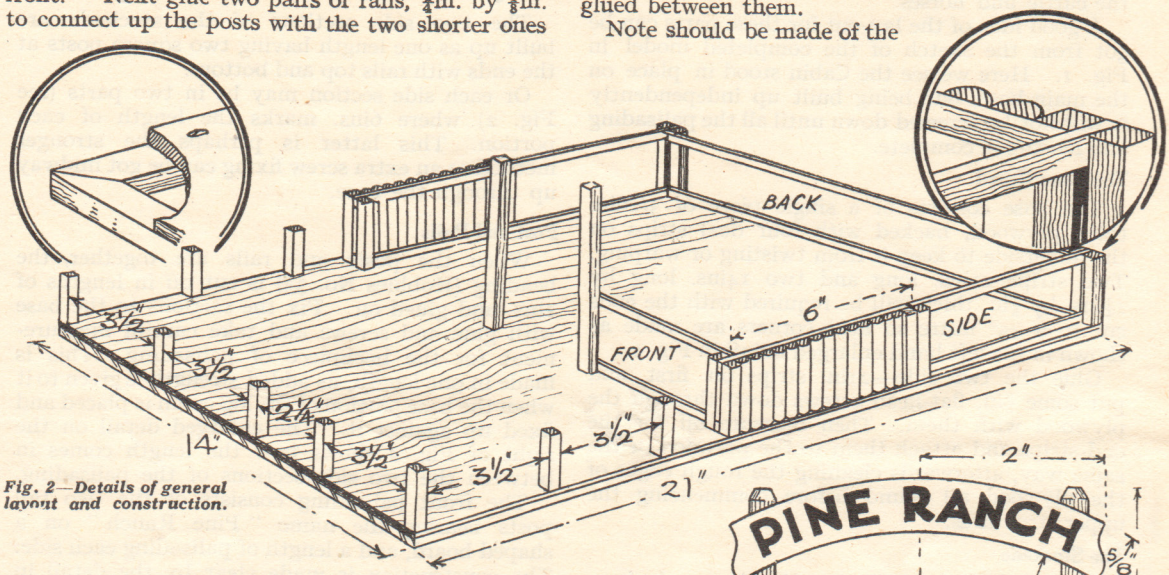


Fig. 2—Details of general layout and construction.

Fig. 4—The name plate lined out.

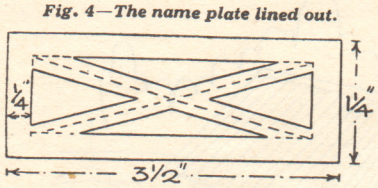


Fig. 6—The cattle pen pattern.

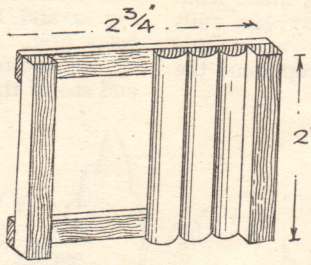


Fig. 5—How the gate is made.

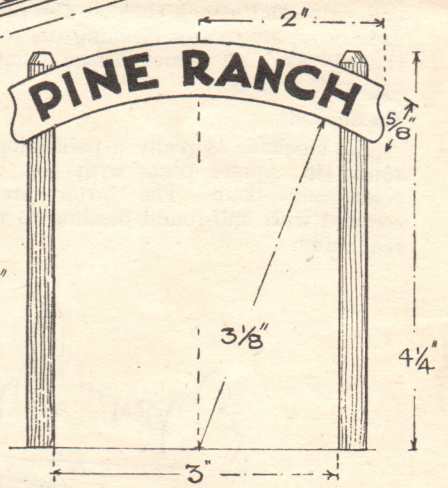


Fig. 3—The name and entrance to the stockade.

which are attached to the side palisading. Cover in again with the beading, the pieces of course having all been cut off to length beforehand.

The cattle pens are seven distinct fretted sections cut to the pattern shown in Fig. 6. Use ⅛in. wood for these, and mark out the diagonals according to the guide lines dotted across after having set out a margin of ¼in. all round inside the piece. Once having drawn out and cut one section the others are outlined on to the wood by drawing round one in pencil. To lessen the work

gateways or spaces left for the entrance of horses or cattle. When all have been fixed, go over all parts of the palisading and fencing and pens and if they require stiffening at all, small blocks of wood cut from waste should be glued round inside.

The plywood base should be painted or stained green and the other parts done over to match the house which is finally fixed to the base with screws or small gluing blocks.

WOOD REQUIRED

1 piece of 3/16in. Plywood 21ins. by 14ins.
1 ,, ,, ⅛in. Deal 21ins. by 2½ins.
1 ,, ,, ⅛in. Deal 14ins. by 2½ins.
1 ,, ,, ⅛in. Satin Walnut 8ins. by 6ins.
5 feet ¼in. by ¼in. Satin Walnut strip.
9 ,, ¼in by ¼in. Satin Walnut strip.
12 feet of No. 35 Half-round ⅛in. beading.

Parcel No. T.M. 298 with all the above for £2/6, postage 6d. extra.

FOREGROUNDS AND BACKGROUNDS

WHEN one studies a collection of photographs—one of the things that strike one is that in many cases the interest of the picture lies in the foreground. The middle distance may be pleasing, the far distance full of charm and mystery, but as a general rule the first object to catch the eye, and to which the eye returns again and again, is in the immediate foreground. As a result of its proximity to the camera this object is large, which is one of the reasons for its dominance.

It is lack of foreground interest which mars so many technically good photographs. The photographer sees a distant scene and snaps it.

The result is certainly like the view he took, yet is curiously unimpressive. The chief cause of this is there being no object in the foreground there is nothing to give scale to the scene. A figure, fairly close to the camera, would give an impression of distance by contrast.

By this is certainly not meant that a fine landscape is to be spoilt by a large incongruous figure staring at the camera. The figure (if it is to be a figure—for any other object will serve), must of course be in keeping, and if looking into the picture will draw the eye with it. Notice in Hobbies Weekly of April 13th "Some Guides to Correct Exposure" the picture of the South Downs with an artist in the foreground painting the scene. If you cover the figure you will notice how the picture loses both in interest and in the effect of distance. Notice too that the figure is well off the middle line of the picture.

Most beginners fail by not getting near enough to their subject. This is no great matter if the photograph is to be enlarged, as the chief "bit" can then be made a reasonable size, but even so it is better to definitely make up your mind what actually is the *raison d'etre* of the picture and then get it big.

There are occasions when the chief object is a considerable distance away, and though we should like it right in the foreground for some reason it is impossible or undesirable to approach more closely.

In such a case we can bring the rising front into use, and so cut off the intervening foreground; if we have not this gadget we must content ourselves with cutting off the offending part in the print. One can also ensure a larger picture by using a lens with a longer focus than usual, but few of us carry more than one lens.

The "low differential focussing" has subdued the background

In another case one may by waiting find that shadows are cast, creating interest where before there was none. There was only one possible time to take the picture of the Cambridge Bridge shown on this page; at all others the approach was blank and dull.

It is not, of course, in the least essential that the foreground object should be a figure—in the example above the shadows are more important than any other part of the picture — and no figure should be included which is not in strict keeping with the scene.

The principal object may be anything almost — a tree, house, gate, shadow, reflexion, cat, footsteps or muddy pool. Do not forget when placing it, a most important rule of

The figure helps to give an impression of distance.

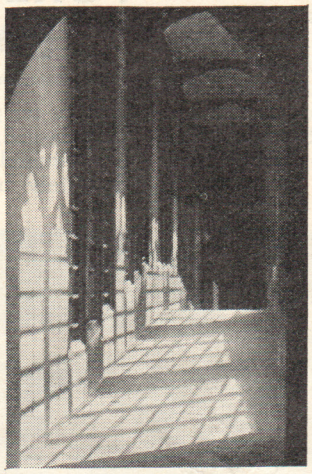
A plain white background is suitable for a child study.

composition that the middle is the weakest place in the picture space, and that in order to give prominence to an object it is best to place it about one third of the way across the space.

There is a type of picture in which the whole of the foreground is interesting—or should be. In the picture of Castle Coombe in Hobbies of April 13th, the chief interest is in the stream flowing through the village. The houses, though beautiful, are of secondary importance, and being less sharply focussed appear to recede.

In this class of picture one can often help the foreground by breaking it up a little; footmarks can be made in snow, or a stone thrown into still water will make ripples, which will relieve the monotony. A picture of this type is frequently taken against the light, the sun casting shadows on to the foreground, and for this a lens hood is essential.

Another type of picture is one which consists entirely of foreground. In this case the camera is usually situated at a high level and pointed downwards. This tends to exaggerate the foreground and at the same time cuts off all beyond. Many stunt and so-called "modern" effects are often produced by this method.



The patterned foreground is the making of this picture.

Any object in the foreground will, from its position alone, attract attention, but its importance can be increased by sharp focussing. Keep your sharpest focussing for your most important subject is a good general rule.

One has always when taking near objects to guard against under-exposure. Full exposure is necessary if the shadows are to show due gradations and not print out as mere black patches. The old photographer's saying is: "Expose for the shadows," which is only another way of saying: "Expose for the foreground." The nearer you are to a subject the longer must be the exposure.

The background is as important in its way as the foreground. Practically all the advice given above relative to foregrounds may be applied—in reverse—to backgrounds. The foreground should be assertive, the background subdued; the foreground must by sharp focussing be helped to come forward, the background must by careful focussing recede.

The chief point of interest is rarely if ever in the background. In landscapes, seascapes, street scenes, etc., the distance is naturally less clear to the eye, and this lack of clearness should be allowed to appear in the photograph. Some photographers use so small a stop that the distance is registered pin sharp.

This destroys all feeling of atmosphere and brings the distance forward into competition with the foreground in a most unnatural manner. A medium stop will give a sharp foreground and allow the different planes of the middle and far distance to be seen less distinctly, and so apparently to be further away.

This "differential focussing," as it is called, is very easy with a reflex camera. With this type of camera one focusses on the main subject, seeing it full size and right way up on the screen. One then "stops down" until the background is as sharp—or as fuzzy—as one wants.

For instance in a picture of children playing in a garden one wants the children dead sharp. One also wants to show that they are in a garden, but the garden must not be equally sharp and so compete with the children. The exact amount of sharpness needed can be decided by inspection with the reflex. With scale focussing this is not so easy, but with practice one learns which stop to use.

Portraiture goes one step further. Here one rarely wishes to show the surroundings of a sitter for what they are. All interest must be concentrated on the subject, and anything distracting to the attention removed. The plainer the background the better. A makeshift one can be rigged up provided it is not obviously so.

Indoors a plain evenly lighted distempered wall will serve excellently. Failing that a sheet of *new* brown paper—absolutely creaseless—may be pinned up. A blanket can be stretched on a screen to serve, but a sheet is useless, owing to the folds. Anything in the nature of an assertive wallpaper should be eschewed.

Out of doors one can sometimes get a figure against the sky. At others a dark doorway or window frame can be utilised. If one's lens is of large aperture, almost anything can be used provided the sitter can be placed a fair distance from it, as owing to its large aperture the lens will have little depth of focus, and practically everything beyond the sitter will be out of focus.

Even so one has to keep a wary eye on obtrusive blobs of light, sky, etc. Beware of brick walls—beloved of beginners—or walls with ivy, whose shiny leaves form a distractingly spotty background.

When taking a portrait let your motto be "The Sitter—and nothing but the Sitter."

A "HOLIDAY" COMPETITION

Readers will be interested to hear of a "Holiday" Competition being run by Johnson & Sons of Hendon, London, N.W. 4. There are 50 cash prizes offered, with a number of other prizes of photographic material. There is no entrance fee, and holiday snaps of any subject may be submitted.

A leaflet giving full details, can be obtained by readers who write to the above address and mention Hobbies Weekly.

Fingerprint Powder

CAN you tell me how to make fingerprint powder?—(D.G.)

FINGERPRINT powder is a special composition of chalk and mercury. The correct proportions are withheld as this is a police secret. Experiment shows, however, that if the chalk is very finely powdered, only a very small proportion of mercury is necessary, in fact, you need not bother about mercury at all.

Glossy Prints

HOW can I get an enamelled surface on the front of my photograph prints?—(M.G.A.)

THE highly glazed surface which you see on prints is obtained by putting them on a specially prepared tin called ferrotype. This is a black sheet of metal on to which the prints are put when wet. The tin and the print are held under water and the print laid picture side downwards quite flat to the polished surface. It is then rolled very firmly with a squeegee to press it to the surface of the tin, and to squeeze out as much water as possible. The tin with its print upon it is then allowed to get thoroughly dry in a comfortably warm atmosphere, when the paper will gradually peel off and be found to have a highly glossy surface. The ferrotype can be used any number of times, and is quite cheap to buy. It is obtainable through any photographic stores or chemist.

Tame Mice

PLEASE send me a list of the different types of mice and their values.—(A.R.)

THERE are over thirty different varieties and colours in fancy mice, but the chief standardised types are sufficient for a beginner to commence with. The Selfs are comprised of the following varieties: Self black, self red, self blue, self chocolate, self white, self cream, self silvers; champagne, fawn and the marked varieties of other types. The Dutch breeds offer a variety of colours: black, blue, red, chocolate, sable and agoutis. Then there are variegations of the various colourings: black blue, chocolate, cinnamon, etc. Other varieties include: tans, silvers, sables, agouti, and cinnamon. The marked varieties include the Dutch, brokens, evens and variegated. As regards values, these vary greatly, according to the samples you have to sell. If they are special exhibition mice they would—or should—fetch fancy prices, as much as £1 per mouse, or even £2 if very special breed. The prices for ordinary fancy mice (coloured) run about 1s. 6d., 2s., and 2s. 6d. per pair. Dormice are 10s. or 11s. per pair.

A Bichromate Cell

I WOULD like to know how to make a bichromate cell.—(A.K.S.)

FOR one cell, use one pound glass jam jar, a zinc plate 4ins. long and 1in. wide, and as thick as possible, and two carbon plates of similar size. Terminals can be fixed to the plates by drilling holes through them, or else solder wires to the zinc. Secure the plates to a wooden separating strip so they do not touch each other, and yet easily go into the jar. The carbons are outside the zinc. The solution consists of 2ozs. of bichromate of potassium, dissolved in one cupful of cold water. To this add 2ozs. of sulphuric acid (accumulator strength); make up the whole to fill the jar when the plates are in place. Remove the elements when the cell is not in use, and rinse in water, as the acids will dissolve the zinc even when the cell is not giving a current.

Metal-work Designs

WOULD you tell me where I can obtain designs for metal work?—(R.B.)

YOU can obtain a book of Bent Iron Designs showing the patterns full size from Hobbies Ltd., There are 14 of them, and the book costs 1/2 (post free). Included in it are designs for Candle Holders, Frames, Letter Racks, Pipe Racks, Galleries, etc.

An Electric Magnet

COULD you tell me how I could make an electric magnet to run off a pocket lamp battery?—(K.H.)

OBTAIN a nut and bolt 1½ins. long and ¼in. in diameter—a carriage bolt being ideal. Make two cardboard washers 1in. in diameter to fit on the shank. Push one up to the head and the other up to the nut. Wrap the shank between these with two layers of brown paper. Now neatly wind the whole space full of No. 32 D.C.C. wire, leaving about 6ins. at each end for connections. This will give quite a powerful electro magnet that does not use much current. Other details of electrical matters are given in these pages.

Make this Tie Press for 1/-

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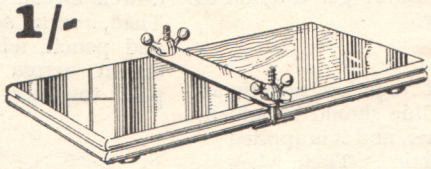

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2 pieces good quality hardwood.
2 cramping plates with polished parts.
4 fixing screws for plates.
4 rubber feet with screws.
You must use the coupon on inside back cover.

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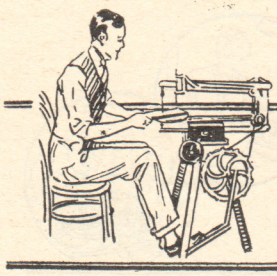
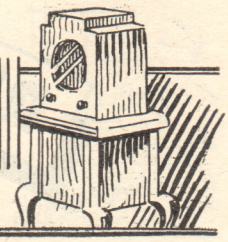


THE ART OF FRETWORK



13th Article

Dowel Joints—Vertical Boring—Marking and Measuring—The Dovetail Joint — Cutting and Testing.

IN our last article we dealt with three of the common forms of joint used in fretwork and were speaking of the mortise and tenon so frequently employed.

One other common failing is found, and should be overcome as soon as possible by the beginner. Having cut his two pieces, he finds they will not go together. The tenon is laid on the bench and an endeavour made to thin it down by means of glasspaper. But, unfortunately, the paper is not kept perfectly flat on the wood, and the outer edge of the board becomes thinner than the back edge. In consequence, when the tenon is put in position, it fits lightly at one edge and is loose at the other, making a joint that will wobble about badly. The way to overcome it, of course, is to use the glasspaper on a block or piece of wood to ensure the complete surface of the tenon is papered down evenly.

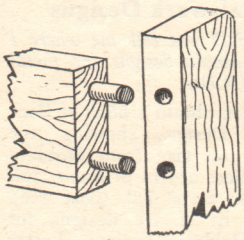


Fig. 1—A dowel joint ready to glue up.

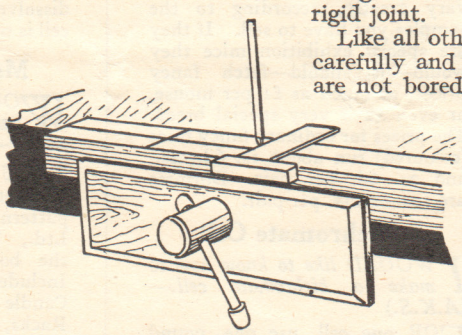


Fig. 2—Mark off the two parts together.

Just another point—see that the corners of your mortise (the opening slot) are cut true. Do not round them off or you will never get a tenon to slide in place and fit correctly.

A Good Joint

The good joint should fit together evenly all round, and hold in itself. Glue should be added, of course, to strengthen further, and it is applied to the inside edges of the mortise. Then, when the tenon is pushed through, the glue is squeezed on to its faces and superfluous stuff is pushed out. It should be wiped away immediately with a damp cloth before it becomes set.

The dowel joint previously mentioned is used principally in thicker wood because it consists of short pieces of round rod let into the actual thickness of the material. As these dowels are usually 3/16in. in diameter it follows, that the wood must be $\frac{3}{8}$in. thick at the least to accommodate them. Thicker material is even better because it gives a better joint.

The mode of use is illustrated at Fig. 1, where the actual dowels can be seen projecting from one piece ready to sink into the holes in the companion piece.

This form of joint is usually employed where a piece of end grain has to be joined on because glue alone is not strong enough to get a good grip if a plain butt joint is employed. The dowel is sunk and glued into both pieces and makes a solid and rigid joint.

Like all others, however, it must be carried out carefully and accurately. Obviously, if the holes are not bored opposite each other, the wood will not come together true.

Or if the hole is bored at an angle instead of straight, then the dowel will get wrung in being forced home and will, in all probability, break off at the crucial moment.

There is a proper procedure in both cases to overcome these troubles, and it is much better to pay attention to these points and take a little time over them, rather than rush the work and have to do it again because of bad craftmanship.

It is essential in the first place, to mark out the two pieces of wood together, and Fig. 2 shows it being done. The work is cramped up in a vice and the position of the dowels measured off. Then, with square and pencil, a line is drawn across both parts together.

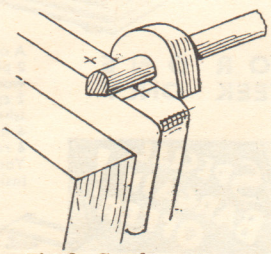


Fig. 3—Get the centre with a marking gauge.

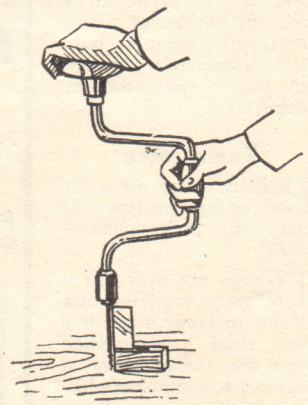


Fig. 4—See your brace and bit are upright when boring

Thus we have one position shown. Now, the dowel must cut in the centre of the thickness and this position must be marked off also.

Suppose you have ½in. wood and your dowel is ¼in. in diameter. When put in properly you will have ⅛in. of wood on each side. But if the dowel is not in the centre, then you will have, perhaps, 3/16in. one side and only 1/16in. the other.

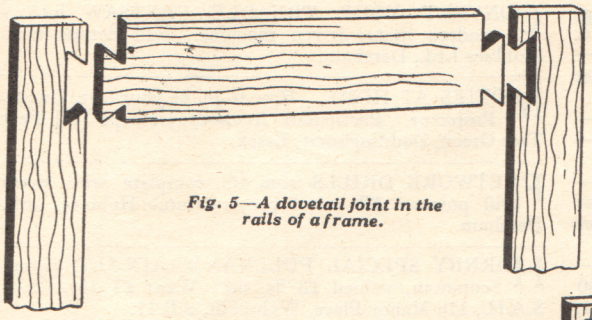


Fig. 5—A dovetail joint in the rails of a frame.

Obviously, you are going to have a joint that is not carrying its full strength. To get this centre point along the lines marked (Fig. 1) we must use a marking gauge, as shown in Fig. 3. The sliding block on that tool is tapped up or down the stock until the pin comes exactly midway on the thickness of the material. When the block is wedged, the gauge is run along across the pencil lines and so marks the exact centre, as seen in the diagram.

How to Bore

This point where the marks cross, indicates the position to be taken for the bit in drilling.

Which brings us to the point of boring a hole accurately down into the wood. The brace and bit must be held perfectly upright, and it is better for the worker to stand at the end of the bench and work rather than at the side.

If you can, put a small square on to the wood as shown in Fig. 4 and drill steadily down into the wood. To mark the depth to which it is desired to go, a good plan is to tie a piece of string round the bit or to put on an elastic band, or to stick a piece of stamp edging at the point required. This will tell us exactly when we have gone far enough into the wood to accommodate the dowel length.

The dowel itself, is a short strip of round rod, usually about 1in. long. A fairly thick wooden skewer can sometimes be used, but it is much better to use the properly prepared dowel rod sold by Hobbies Ltd. It costs only about 1d. for 3ft., and has the advantages of being quite round and of suitable texture.

The general thickness is 3/16in. diameter, and the length depends on the depth of wood in use. Half the length is put in one piece and half in the other. Thus a dowel 1in. long is buried ½in. in each of the two pieces.

An Air Outlet

Obviously, if the dowel has to be hammered home the air beneath it cannot get out, and the glue at the bottom of the hole cannot squeeze through. It is desirable, therefore, to cut a little V groove down the length of the dowel to allow the air and glue to escape.

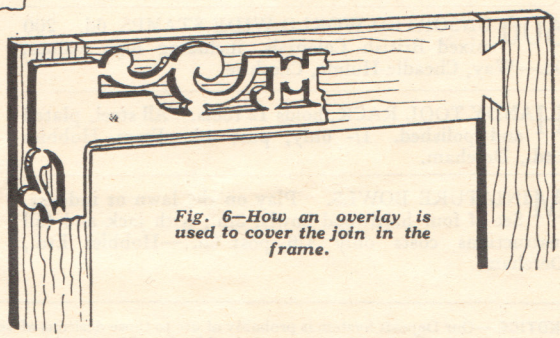


Fig. 6—How an overlay is used to cover the join in the frame.

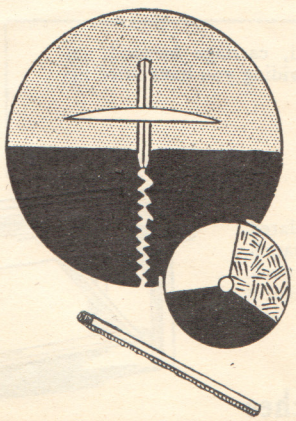
The end of the dowel is also usually slightly round to bed home better.

When the parts are ready to be finally fitted together, brush some glue along the edge of the two pieces of wood, then dip the dowel into some glue and drip it right home into the hole. Coat the other end of the dowel also with glue, and put on the second piece of wood. Mallet them tightly together (taking care not to bruise the work) and then, if possible, cramp them together until the glue has set.

Usually the dowels are fitted in pairs to provide strength and prevent twisting, for in large frames there is a tendency to wind, unless the work is laid flat on the bench or floor when the frame is made.

(*Continued on page 222*)

MATCHSTICK TOPS



QUITE fascinating little tops can be made from two very simple little items—a wooden button mould and a match.

Cut off the head of the match and sharpen the end to a point, then push the stick through the hole in the button mould and cut the other end of the match off if it seems too long. Cut a notch in the top, as shown in the sketch, to form a handle.

To make this into a Jubilee top, divide the button mould into three equal parts, painting red, white and blue. When the paint is dry, start the top spinning and see how well it goes whizzing round.

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The small "to sell" or "wanted" announcements appearing below are accepted from readers who want to sell anything except fretwork goods, or from usual advertisers of bargains of interest. The advertisements are inserted at the rate of 2d. per word. Name and address are counted, but initials or groups, such as E.P.S. or £1/11/6 are accepted as one word. Postal Orders and Stamps must accompany the order. We cannot guarantee any date for these to appear, but they will be inserted in the earliest issue.

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GLUE KETTLE, 2/3, post 9d. Made of cast iron for dependable service. Hobbies own make.—Hobbies Ltd., Dereham.

500 UNSORTED WORLD-WIDE STAMPS, 6d. 200 mixed British Colonials, including high values, 9d.—Way, Cheadle-Hulme, Cheshire.

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25/- buys Hobbies Gem Fretmachine. Cuts wood up to ¾in. thick. A marvel of value. Write for details to Hobbies Ltd., Dereham.

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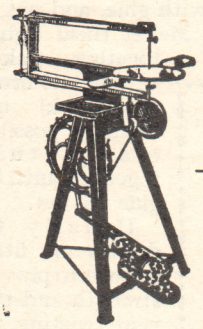

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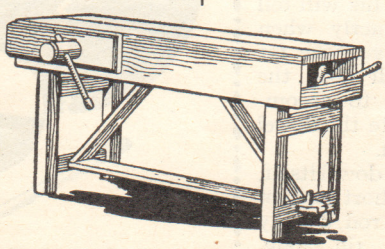

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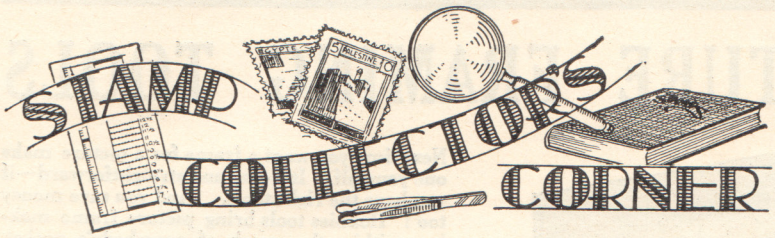


FROM EUROPE INTO AFRICA

WHEN we had a pleasure trip through Europe, we finished up at Gibraltar, mainly because this spot should prove an excellent stepping off place for a similar trip through Africa.

It would be very difficult to say which of the continents has provided the most interesting stamps, but certainly Africa would be high up in the list. From a general interest point of view, scenery, animals, native types etc., it would be difficult to beat the stamps from 'The Dark Continent.'

Just across the water from Gibraltar we enter Morocco. The British Protectorate has British stamps overprinted Tangier, but as we pass south we should travel through French territory, visiting the town of Fez, which we see depicted on the 1917 stamp of French Morocco.

The view shown must surely recall P. C. Wren's books and the film 'Beau Geste,' This is only one view; there are others in the set which followed, so that a very good appreciation of the country may be obtained from the pages of the stamp album.

A complete collection of the stamps of Liberia is a collection well worth seeing. Messrs. Waterlow & Sons, Perkins, Bacon & Co., and the American Bank Note Co., have in turn produced perfect pictures of animals, plants and views. Among the animals we may see the elephant, rhinoceros, chimpanzee, plantain-eater, lizard, egret, civet, leopard, alligator, etc., including snakes, the particular specimen illustrated being on a registration stamp from Monrovia. Of the products of the vegetable kingdom illustrated, must be mentioned the fine picture of part of the pepper plant.

Liberia has been an independent Negro Republic since 1847 and has produced many stamps which though they could not be called valuable, are certainly difficult for the average collector to obtain.

JOURNEYING inland we come to the French Dependency-Niger—and since Niger territory only came into being in 1921 it is not surprising that there are far fewer stamps. However, one is important as illustrating the manner of obtaining water. The bucket is not let down the well as in England but is fastened to a long pole which acts as a lever. This type of well is in use in other parts of Africa.

Up to 1923 Belgian Congo was issuing stamps giving some very

pretty general views such as the Stanley Falls and the Inkissi Falls, but in that year the famous 'Native Type' set was issued from which we can at least see some extraordinary ways of doing hair. In the case of the 5c. value the lady's hair has been soaked in oil in order that it may set in the manner depicted.

The stamp illustrated shows some of the native kraals, notice that the border is made of a design formed from spears and shields, the borders of stamps are frequently most interesting and should be studied just as carefully as the central theme.

In connection with the subject of natives represented on stamps, a most interesting little book has just been brought out by Messrs. Stanley Gibbons of 391 Strand, W.C.2. It is called 'Native Races of the Stamp Album' and it is written by A. E. Gould. It only costs 1/-, but makes some of the curious figures much more interesting.

UNFORTUNATELY we cannot linger any longer in this part of Africa, but must continue on our journey. Sooner or later we shall reach South Africa and the 1933 Voortrekker Monument stamps are particularly interesting on a trip such as we are taking. They commemorate the Great Trek of 1835 when 10,000 people crossed the Orange River.

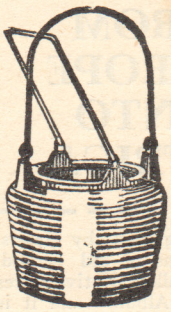
Three stamps were issued, the 1d. plus ½d., the 2d. plus 1d. and the 3d. plus 1½d., the extra being given towards the Voortrekker Monument.

Notice that in this case a pair of stamps has been shown because one has been printed in English—South Africa—and the other in Afrikaans—Suid Afrika—either language will serve us because the country is bilingual. The stamps are printed alternately throughout the sheet, and should be collected in pairs, a pair being worth about three times a single specimen.

Mozambique on the east coast will be our next stop. Here, judging by the set issued in 1918, they must be very busy indeed for no less than twelve industries or commodities are illustrated.

PICTURE FRAMING TOOLS

Next time you want a frame for a picture make one yourself. It's easy and straightforward—if you have the right tools. And you save money too! Hobbies tools bring picture frame making within the reach of everybody's pocket. Make a start on your first picture now!



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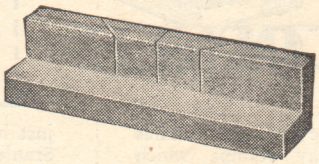

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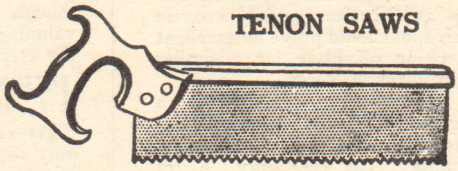
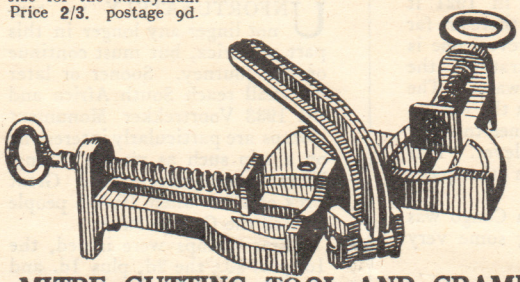
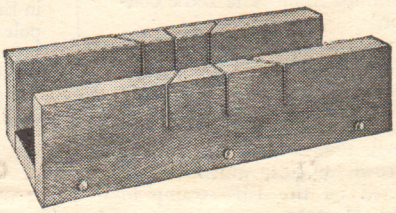


For the small mitre blocks a 10in. saw is required. This with iron back costs only 2/6, whilst a 12in. is 2/9. A 14in. saw of superior quality suitable for the mitre cramp costs 4/6, postage 6d. on each.



MITRE CUTTING TOOL AND CRAMP

The ideal mitre-cutting tool. The moulding is held in right and left hand cramps. The long metal saw guide ensures a clean accurate mitre. The No. 1 Tool takes mouldings up to 4½ins. wide and costs only 10/6, post 1/-. The No. 2 cramp is of heavier construction all round, and takes mouldings up to 5½ins. wide. Price 17/6, post 1/3



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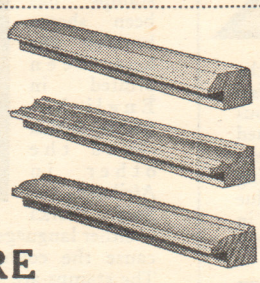
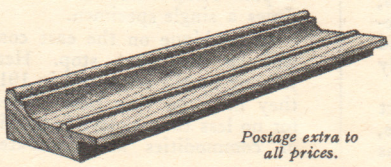


PICTURE FRAME MOULDING



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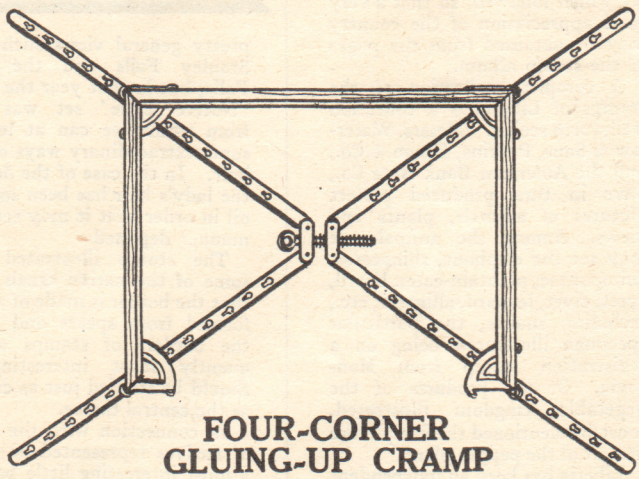

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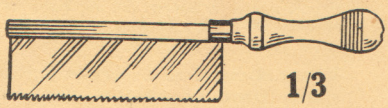

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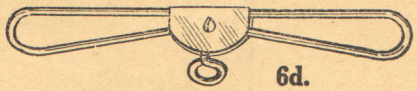

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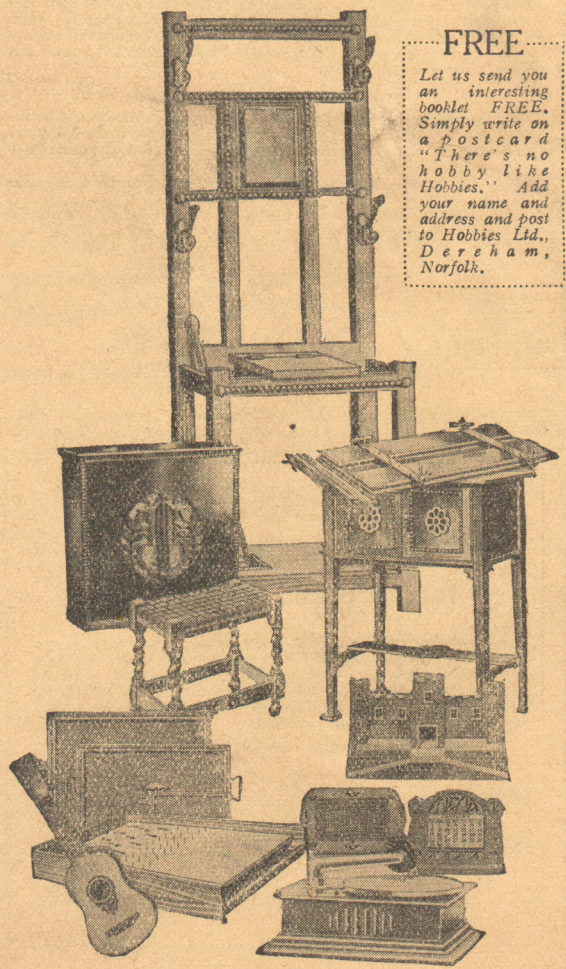

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